

BASIC EXERCISES 'NO.1

by BONNIE PRUDDEN



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Mechanization, increased urban living, spectator sports, passive entertainment and a general tendency to "ease" is having a weakening effect upon our population. This was proved by the Kraus-Prudden survey which compared the American and European Minimum Physical fitness levels and found the Americans to fail a series of tests for key posture muscles at the rate of 56.6%. The Europeans (Italians, Austrians and Swiss) failed at the rate of 8.0%, 9.5% and 8.8%.

The main difference between the two tested groups, both of which were from public school systems in suburban and small urban communities; was not their type of Physical Education (the Italians and most of the Austrians had none whatsoever), but in their way of life.

Walking, working and using their bodies for recreation has kept the Europeans fit. School buses, cars, labor saving devices, movies, radio, television, spectator sports, apartment living, dangerous roads and lack of play space have lowered our physical fitness to a dangerous level.

We have no wish to give up our mechanical gains and our pleasures, but because we are humans, there is a physical fitness level below which we cannot drop without subjecting ourselves to the dangers of disease and discomfort.

As children are entering the schools with a 54% failure in Kraus-Weber Test rating - while European six year olds are below 6% - it seems logical to start them on a program which will remedy the treatment they have had at home. This program should be increased as the child grows, so that his strength and flexibility will be sufficient to permit him to profit from games and sports whether or not he is a "natural athlete".

As it will be some time before the public becomes aware of its danger in an unprecedented situation, the responsibility will of necessity fall on the schools and more directly on the Physical Education Departments.

The following pages contain the Kraus-Weber Tests, directions for testing and computing and finally a series of exercises which can be used both to remedy existing failures and also as a general daily exercise program which will develop both flexibility and power.

It should be remembered that five minutes daily is of more value than an occasional two hour stint which will serve only to produce pain, stiffness and discouragement.

Do not spend more than a few minutes on any one exercise, it would be more beneficial to go through the series and then if there is time to spare - go through it again.

The class should begin with easy, controlled exercises. They can build up to a peak of power exercises and when the muscles are warm, go into flexibility exercises. Allow at least five minutes at the end for a few easy "cool off" exercises.

It is often helpful if the students themselves lead the exercises once they have been learned. This leaves the teacher free to watch for errors of performance.

A recheck with the Kraus-Weber Tests from time to time will encourage both teacher and students and will give a fairly accurate gauge as to the effect any program is having on the muscles of the group as a whole as well as on those of the individual.

Recording Kraus-Weber Tests

Name _____ Age _____ Sex _____			
School or group _____			
Date _____ Date _____ Date _____			
A+			Substitution
A-			Lead
P			Arch
UB			Unilateral
LB			Nails
BH			Tension
Remarks:			

Be sure the student's Name, Age and Sex are entered on the card.

The card is designed for three testings. Usually they are made at the beginning, middle and end of the school year, or camp season.

All evidences of substitution, unilateral muscle development or tension are noted in the second block.

Scoring (for Screening)

In screening large groups of students where no one is expected to do anything about the defects discovered, it is unnecessary to estimate to what extent a student fails. If he cannot pass a test, enter it as "O". This is true in all tests with one exception - the floor touch test (BH). For further study it may be useful to know the average rate of failure in the floor touch test, therefore the failure is rated in the number of inches by which the student fails to touch the floor. Passing is recorded as "10" in each test except the floor touch (BH) test, where it is noted as T for Touch.

A passing score then would be -

A+	10
A-	10
P	10
UB	10
LB	10
BH	T

KRAUS-WEBER TESTS FOR MINIMUM MUSCULAR FITNESS

(The names given to these tests designate areas and not specific muscle groups). Have persons being tested remove their shoes.

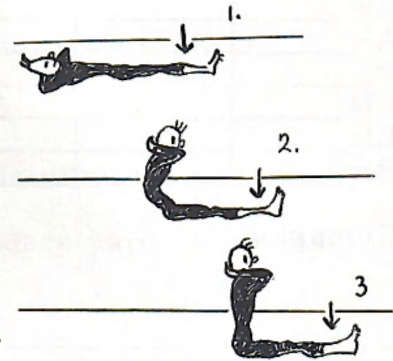
TEST #1

PURPOSE: Tests the strength of the abdominals and psoas.

DESIGNATION: "Abdominals plus psoas" or "A+".

POSITION OF PERSON BEING TESTED: Lying supine, hands behind neck. The examiner holds his feet down on the table.

COMMAND: "Keep your hands behind your neck and try to roll up into a sitting position."



If the person cannot sit up - he fails the test - his abdominals are weak and he should work for a few minutes daily on the exercises designated in the Table for ABDOMINALS and gradually increase the dosage as he becomes stronger.

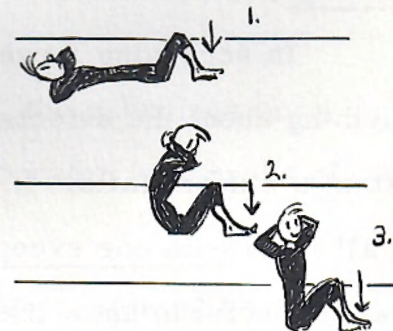
TEST #2

PURPOSE: Further test for abdominals.

DESIGNATION: "Abdominals minus psoas" or "A-".

POSITION OF PERSON BEING TESTED: Lying supine, hands behind neck and knees bent. Examiner holds his feet down on the table.

COMMAND: "Keep your hands behind your neck and try to roll up into a sitting position."



People are more likely to fail A- than A+. The same exercises are recommended.

TEST #3

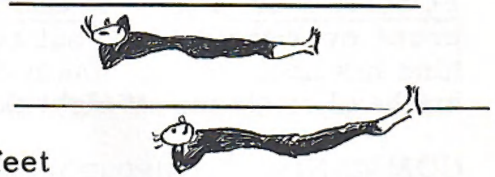
PURPOSE: Tests the strength of the psoas, and lower abdominals.

DESIGNATION: "Psoas" or "P".

POSITION OF PERSON BEING TESTED: Supine with hands behind neck and the legs extended.

COMMAND: "Keep your knees straight and lift your feet about ten inches or 30 degrees off of the table. Keep them there while I count." The count is ten seconds. (Adding any three syllable word after each number makes the count fairly reliable as to time. For example, "One chimpanzee, two chimpanzee, three chimpanzee, etc.")

Ideally the spine should remain flat on the table, or very slightly arched. If the person being tested must use an extreme arch to maintain the leg lift, for 10 seconds he will pass the test, but is considered weak and needs the exercises in the Table for "PSOAS" - as do all those who fail the Psoas test.



TEST #4

PURPOSE: Tests the strength of the upper back muscles.

DESIGNATION: "Upper back" or "UB".

POSITION OF PERSON BEING TESTED: Lying prone with a pillow under his hips so as to give the body the feeling of being a see-saw which if weighted at either end, would be able to hold the other end in the air. Be sure the pillow is large enough to support him and prevent hyperextension. Hold down his legs.



COMMAND: "Put your hands behind your neck and raise up your chest, head and shoulders. Hold them up while I count." The count is ten seconds. Failures rarely occur in this area, but such failures as there are, as well as those who feel this test to be difficult, should do exercises suggested in the Table for UPPER BACK.

TEST #5

PURPOSE: Tests the strength of the lower back.

DESIGNATION: "Lower back" or "LB".

POSITION OF PERSON BEING TESTED: He remains prone over the pillow, but removes his hands from behind his neck, places them down on the table and rests his head on them. Weight down his chest.

COMMAND: "Lift your legs up, but do not bend your knees". "Hold this position while I count". The count is ten.

Exercises for those failing this test, or those who find it difficult are to be found in the Table under "LOW BACK".



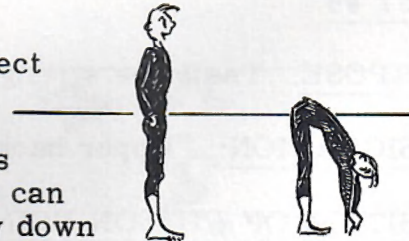
TEST #6

PURPOSE: Tests the length of back and hamstring muscles.

DESIGNATION: "Back and Hamstrings" or "BH".

POSITION OF PERSON BEING TESTED: Standing erect in stocking or bare feet, hands at his sides.

COMMAND: "Put your feet together, keep your knees straight, now lean down slowly and see how close you can come to touching the floor with your finger tips. Stay down as far as you can for a count of three. DO NOT BOUNCE".



PRECAUTION: Watch out for bouncing. The furthest point reached without bouncing and held for three counts is the marking point. The examiner should hold the knees of the person being tested in order to prevent any bend.

This test is the one most often failed. Too much inactivity, sitting, nervous tension, or even doing one Physical activity to the exclusion of all others such as bike riding or track, can cause it. Inflexibility however, is often just as responsible for posture difficulties and backache as are the weakness failures.

The exercises in the Table for Flexibility should be done as often during the day as time permits.

All six tests should be administered by one person in order to get the whole picture of the individual.

In recording failures for groups where work is to be done to correct deficiencies it is well to give all the help possible to the person whose job it will be.

In the two "sit up" tests A+ and A-, note to what degree the student fails. If in the sit up, legs extended or A+ test, he is unable to get his shoulders off the table-he is zero failure, 0. If he sits all the way up unaided, he is passing and rates 10. The student able to take over after being helped one half the distance would rate 5, or after being helped almost not at all, 8, or almost all the way, 2. It is only important to have an indication of the degree to which the student fails. The marking then goes from 0 to 10.

In the leg lift supine (P) test, the passing requirement is 10 seconds and the passing student would get 10. A student holding for seven seconds would rate only 7. His case is not as serious, however, as that of the student who cannot get his legs off of the table at all and rates a 0. If there then has to be a choice made and help given the student who is more in need of help - it is certainly easy to select him. UB and LB are also rated by the second and can be recorded as in the psoas test.

The floor touch test is recorded in the number of inches between the student's fingertips and the floor. A student failing by six inches is graded as -6". If he is only 1/4" off of the floor he is still a failure. Unless continuously stretched he will probably fail this test after a period of severe stress, improper training, illness or accident and he should not consider himself passing.

Any test that is passed with difficulty rates a small c above and to the right of the rating of the test. For example: 10^c

It is important to note borderline cases, as any difficulty such as illness will put him in the failing class and efforts should be made in advance to give him a wider margin of safety.

There are a number of ways in which students can perform the tests badly ALTHOUGH PASSING.

1. A jerky sit up with a straight back. This is checked in the second box under "substitution".
2. The supine leg lift with the back unduly arched. This is checked as "arch".
3. Sit ups with one or the other shoulder leading. Entered under "lead" as R or L for right or left.

There may be signs which might bear further investigation, for example: a unilateral development of the back (noticeable in the UB test). This is noted under "unilateral development" and the side should be noted with an R or L.

When the student evidences more tension than is normally present during the testing it is noted as "T". If his tension is very marked give him "TT", extreme would rate "TTT". There are several "Tension" signs.

1. Bitten fingernails - noticeable during the UB test.
2. Too fast or too slow getting on the table.
3. An echoing of directions.
4. Tension felt in the muscles as you hold down the legs for A+ , A- and UB
5. Inability (through fear) to lie down on the table.
6. Legs held partially bent with the feet out of line in either or both supine or prone leg lift.
7. Banging the head down on the table when the hands are placed behind the neck in the UB test - or during the switch from UB to LB test. All of these contribute to "Tension" and are not entered separately. After a few hundred tests, the calculation of tension signs become automatic.

RECORDING FOR COMPUTATION

1. Divide all cards by sexes.
2. Divide all cards by age.
3. Start with youngest and on a separate sheet enter the following headings:

Age	Total Tested	O. K.	Deficient	Incidence of Failure	Flexibility	Weakness	Abdominals	Backs	Psoas	2	3	4
6	30	15	15	23	10	13	6	3	4	4	2	0
7												
8												

4. Let us take Boys, aged six. Separate failures from O. K. cards.
5. Enter O. K's. Let us say there were 15.
6. With a red pencil note in the block on your cards labeled "Remarks" the nature of the failures:- A for either or both A/ or A-
 B for either or both UB or LB
 P for "Psoas"
 F for "Flexibility" (BH)
 You may have them in combination as well. AF is the most common and indicates an abdominal failure plus a floor touch (BH) or Flexibility failure, AP = Abdominal & Psoas. Sometimes they come in threes, for example: ABP= Abdominal plus back plus psoas.
7. Now, with no attention to combinations, count all your F's - and enter them under "Flexibility". Let us say there were 10.
8. Count all abdominal failures and enter them under "abdominals"; let us say there were 6.
9. Count all back failures. Enter them under "backs". There were 3.
10. The Psoas failures number 4 and are entered under "Psoas".

RECORDING FOR COMPUTATION - continued

11. Looking at your scratch sheet, add all your "weakness" failures together, abdominals, backs and psoas.
12. Add "Flexibility failures" to "weakness failures" which equals 23. Enter this under "Incidence". This gives you the number of TESTS failed.
13. Add up the number of failing cards - and enter them under "Deficient".
In our hypothetical case let us say we had 15 deficiencies.
14. Count those failing 2 tests (abdominals / (and or) A- count as one failure) (upper back (and or) lower back count as one). In this case let us say there were 4. Enter under "2".
15. Count the triple failures and enter under "3" let us say there were 2.
16. Count those failing 4 tests and enter them under "4". Let us say there were none.

COUNTERCHECKS

17. Add the OK's to the Deficients and you have 30 or the total tested. Does it check with your cards?
18. Does the total number of weakness failures (13), plus Flexibility failures (10) add up to "Incidence" (23)?
19. Do "abdominals" (6), plus "backs" (3), plus "psoas" (4), add up to "Weakness" (13)?
20. Does the difference between "Deficient" (15), and "Incidence" (23) equal the number of double tests failed (4) plus triple tests failed (2 x 2)?
21. You will find that the column for OK's has been omitted in the Tally Sheet. Your scratch figuring can be entered on the Tally as you have it here by omitting the OK's.
22. Figure your percentage and enter in the columns provided.

MUSCULAR FITNESS TEST TALLY SHEET

SCHOOL

ADDRESS

DATE

	TOTAL		BOYS		GIRLS	
	NO.	%	NO.	%	NO.	%
TOTAL TESTED						
DEFICIENT						
INCIDENCE OF FAILURE						
FLEXIBILITY FAILURES						
WEAKNESS FAILURES						
ABDOMINAL FAILURES						
BACK FAILURES						
PSOAS FAILURES						
COMBINATION OF TWO						
COMBINATION OF THREE						
COMBINATION OF FOUR						

Signature_____

BOYS

- 14 -

YEARS	TOTAL TESTED	DEFI- CIENT	INCI- DENCE	FLEXIB- ILITY	WEAK- NESS	ABDOM- INALS	BACKS	PSOAS	TWO	THREE	FOUR				
		NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
TOTAL															

GIRLS

YEARS	TOTAL TESTED	DEFI- CIENT	INCI- DENCE	FLEXIB- ILITY	WEAK- NESS	ABDOM- INALS	BACKS	PSOAS	TWO	THREE	FOUR				
		NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
TOTAL															

BOYS AND GIRLS

YEARS		TOTAL	DEFI- TESTED CIENT	INCI- DENCE	FLEXIB- ILITY	WEAK- NESS	ABDOM- INALS	BACKS	PSOAS	TWO	THREE	FOUR	
		NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
TOTAL													

Incidence. Number of tests failed.

Two, three and four. Number of children failing two tests or three tests or four tests.

[illegible][illegible]

EXERCISE PROGRAM VOCABULARY #4

1. ABDOMINAL SETTING - (ON HANDS AND KNEES)

Students are on hands and knees. They are told to permit the abdominals* to "go slack" "to droop" "to go soft as jello" or any other descriptive phrase - and at the same time to observe this as it happens. On the command "Pull the abdomen way in" they should see it flatten. This is held for a count of 5. If the pull is sufficiently hard they will notice a growing sensation of strain in their backs. Relax for 5 counts and repeat 3 or 4 times. *When teaching small children, the use of the word "stomach" means more to them than abdominals.



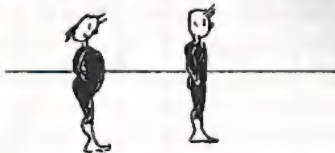
2. GLUTEAL AND ABDOMINAL SET (PRONE)

From the hands and knees position students drop to prone position. On the command "Tighten seats" they pinch the buttock muscles together. Hold for 3 or 4 seconds and relax. As soon as you are sure they know what is required, add the next step. "While the seat muscles are held tight, pull in the abdomen." Unless the student is obese there should be space for the hands to slide under the abdomen. Hold the GLUTEAL AND ABDOMINAL SET for 5 seconds and then relax. Repeat 3 or 4 times.



3. ABDOMINAL AND GLUTEAL SET - STANDING

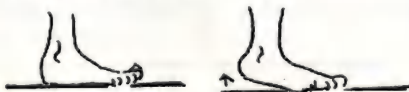
Have the students stand with feet apart, arms hanging loosely at their sides. On the command "Set" they should tighten the abdominal and gluteal muscles which they have learned to isolate on their hands and knees. This has the effect of tucking the seat under and flattening the abdominals. Hold for 5 seconds. Repeat 3 or 4 times.



4. ABDOMINAL AND GLUTEAL SET (WITH TIP AND BOUNCE)

(TIP)

Have the students stand with feet together, arms hanging loosely at sides. On the command "set" have them tighten the abdominals and gluteals - add to this the thigh muscles. With stiff knees have them tip the body forward so that the weight is on the balls of the feet and the heels just clear the floor "not enough to be noticed but high enough so that a piece of paper can be slid underneath the heels". Maintain for 3 or 4 seconds. Relax and repeat 2 or 3 times.



(BOUNCE)

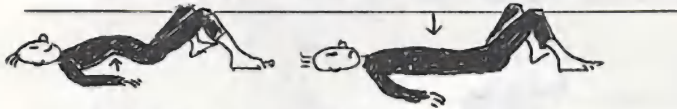
Repeat the "Set" and forward lean of the body and then commence a series of short bounces (Four sets of 8 bounces each without stopping). Repeat each group of 4 sets 2 or 3 times.

5. ABDOMINAL AND GLUTEAL SET (WITH HEEL LIFT)

Repeat the abdominal and gluteal set with feet together then rise slowly on the toes to a count of 2 up and 2 down. On the second lift increase to 3 counts up and 3 down. Each lift, increase one count until the count reaches 6 and then go backwards lowering the count 6, 5, 4, 3, etc. When class becomes more proficient, longer counts can be used.

6. PELVIC TILT SUPINE

Have students in supine position with knees bent and slightly apart. Command "Press the spine down on the floor and hold it there - tighten abdominals and gluteals". Hold for 5 seconds and relax. Repeat 5 times.



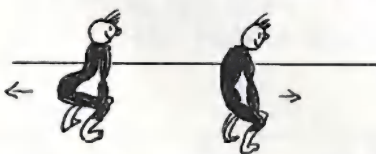
7. PELVIC TILT ON KNEES

Have students on knees - knees together. They sit on their heels with slightly arched backs. On the command of "Tilt Pelvis" they tighten the abdominals and gluteals and tip pelvis bringing the buttocks off of the heels by an inch or two. After the tilt has been learned - they can make the exercise somewhat more difficult by continuing the rise to a straight kneeling position.



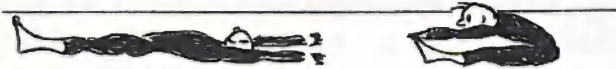
8. PELVIC TILT STANDING

Students stand with feet apart, knees bent, hands on knees and slightly arched backs. On the command "Tilt Pelvis" the pelvis tilts under and the back becomes rounded. "Out" and the first position is resumed. Repeat 4 or 5 times. As soon as possible add a second part to this exercise. Repeat as above but without the help of the hands on the knees. It can be further complicated by repeating the Pelvis tilt without hands and by weighting the right and left legs alternately.



9. ROLL OUTS WITH TOE TOUCH

Students sit on the floor with legs together and stretched out in front. On the command "Roll out", they roll down onto their backs stretching their arms above their heads. This action should consume 2 of a 4 count beat. They immediately swing back up and while keeping the knees straight try to reach their toes with their fingers. (head down) The sit up takes 3 and 4 of the four count beat. Repeat 4 or 5 times.



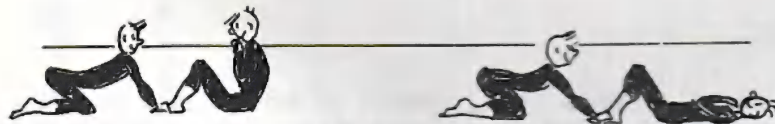
10. ROLL OUTS WITH LEGS SPREAD

Students sit on the floor with legs spread. On the command "Roll out", they roll down as in exercise nine. On the roll up however, they try to touch one foot on one roll up and the other foot on the next roll up. Alternate for six.



11. ROLL DOWNS

Students work in pairs in this exercise. #1 sits with knees bent and feet together. #2 holds his feet down on the floor. Folding his arms across his chest #1 allows himself to roll slowly down keeping his chin on his chest to the last minute. He then relaxes on the floor. He pushes himself again to the sitting position in whatever way he can and again rolls very slowly down. This exercise is used primarily by people too weak to do a "sit up" of any sort. Repeat 5 times.



11a SIT UPS

After the students have done roll downs for awhile they will find that their strength has increased to the point where they can sit up with arms folded across their chests. 5 repetitions.

11b Repeat 11a but with hands behind the neck.

12. ROTATED SIT UPS

Students again work in pairs, one holding down the feet of his partner. Student lies supine with bent knees. Feet and knees apart. He rolls over onto his right shoulder and without using his elbow for help, raises his trunk until the LEFT elbow slides outside the right knee. Roll down and repeat to left. 2 to 3 times each side.



13. SIT BACKS

Students sit on the floor knees bent and hands (not arms) clasped around knees. Sit as far back as possible. Tighten the abdominals and drop the head forward. On the command "Straighten" the pelvis tilts forward first then the back straightens and finally the head comes up. Lean back and straighten 4 repetitions.



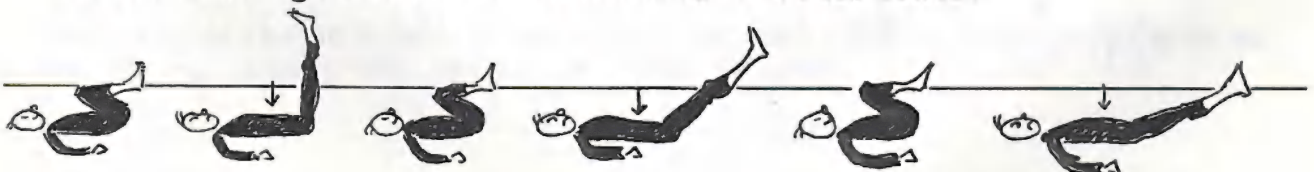
14. ROWING

Students sit in the same position as in 13 - but the hands instead of being clasped around the knees, are held close to the shoulders. The body is tipped backwards far enough to lift the feet from the floor. On counts 1 and 2 the legs and arms stretch straight forward, the torso leans further backward for balance. **THE FEET DO NOT TOUCH THE FLOOR.** On counts 3 and 4 the first closed position is resumed. At first 4 repetitions should be enough.



15. SPINE DOWN STRETCH

Students lie supine with knees to chests, hands on the floor. Great care is taken to see that the spine is pressed down against the floor. On counts one and two the legs are stretched straight upwards, on three and four they return to the knee chest position. Keeping the spine pressed to the floor. Stretch the legs a second time but about 6 inches lower.



Return to knee chest position. The third extension should bring the legs down to the position closest to parallel with the floor that the student can obtain while **STILL KEEPING HIS SPINE PRESSED TO THE FLOOR**. At this point he extends and curls back to knee chest position 5 times. The object is ultimately to clear the floor by one inch.

16. LEG LIFT - OUTWARD ROTATION

Students sit spread legged on the floor and lean back on stiff arms. Turn the feet outward until the little toe of each foot touches, or comes close to touching, the floor. Hold feet in this position and lift legs about 10 inches into the air. Lower and repeat six times.



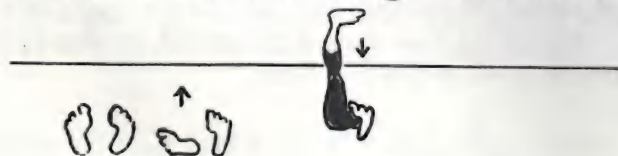
17. LEG LIFT AND CARRY - INWARD AND OUTWARD ROTATION

Students in the same position as above lean back further to rest on their elbows. Their legs are spread. Raise legs 6 inches from the floor and turn the toes toward the center. Carry the feet inward until the toes almost touch. At that point rotate the feet outward and carry them outward as far as possible. At the limit of spread turn the toes inward again and repeat. This is often quite difficult and should not be repeated more than three times at first.



18. HIP ROTATION - SUPINE

Students lie supine. The right leg is straight and turned outwards until the little toe touches the floor. Keeping the outward rotation left leg straight upwards. When the leg is at right angles to the body rotate the foot as far inward as possible. Maintain the inward rotation and lower the leg to the floor. Do not relax but with the foot in the same position raise the leg again until it is at right angles to the body. Rotate the foot outwards and lower to the floor. Alternate legs after three repetitions.



19. PRONE LEG RAISE

Students are prone on the floor with arms stretched out in front. Keeping one leg on the floor raise the other from the hip - alternate 5 times each leg.



20. PRONE ARM RAISE

Students are prone on the floor with arms stretched out in front. Raise straight arms, first left, then right, then both. 5 times the series. DO NOT ROLL ONTO SIDE.



21. PRONE ARM AND LEG RAISE

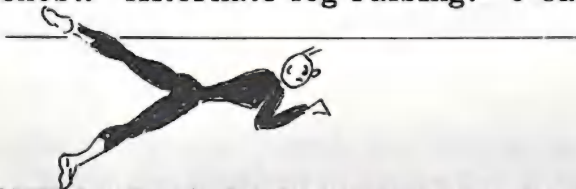
From same position as above raise

- Right arm and right leg.
- Left arm and left leg.
- Right arm and left leg.
- Left arm and right leg.
- Both arms
- Both arms and both legs.



22. PRONE LEG RAISE SPREAD

Lying prone with legs spread - hands close to the body on either side of the chest. Alternate leg raising. 6 each side.



23. PRONE LEG RAISE OVER TABLE OR ROLLED MAT

Student is prone on a table or over a rolled mat with the legs hanging down and trunk supported. Tighten buttocks and raise straight legs. Lower and repeat 5 or 6 times.



24. PRONE TRUNK RAISE OVER TABLE OR ROLLED MAT

Student is prone on a table or over a rolled mat with the trunk hanging down and the legs supported. Raise the trunk. Repeat 5 or 6 times.



When exercises 23 and 24 have become easy, one can add bean bags full of lead shot or sand graduated from one to twenty pounds. Sash weights also can be used.



25. HAMSTRING STRETCH

Students sit spread legged on the floor. Grasping the right leg with both hands and keeping both legs STIFF, try to pull the chin toward the toes of the right foot. Alternate 8 bounces right with 8 left. Repeat 3 sets.



In the same position now try to put forehead on right knee for eight bounces and then alternate with left. 3 sets



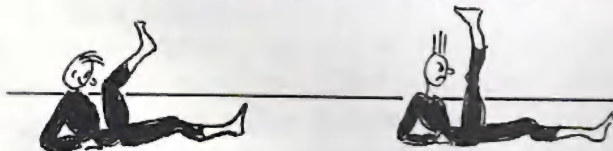
26. CROTCH STRETCH

Sitting on the floor, draw the feet close to the body and place the soles of the feet together. Holding the ankles with the hands, press downwards on the knees with the elbows - trying to bring them to the floor. 10 pushes.



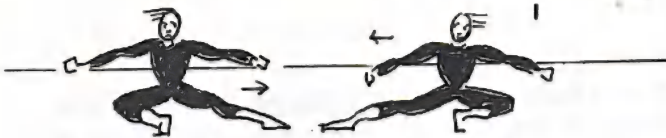
27. KNEE TO NOSE STRETCH

Students sitting on the floor with legs outstretched, rest back on their elbows. Leaving the right leg stretched, bend the left until the knee touches the nose. Keeping the knee as close to the nose as possible, try to straighten the leg upward. Alternate with right leg. Six times each side.



28. FLAT FOOT ROCK

Students stand with feet very wide apart and then lower into a stoop over one foot. Keeping the feet in exactly the same spot as they were in while standing - transfer the body from a stoop over one foot to a stoop over the other. Pretend there is a roof overhead and do not raise the body while transferring. 4 times to 6 times.



29. HAMSTRING STRETCH SERIES

Students stand with feet apart and hands locked behind back. With knees stiff they bend over from the waist. Keeping heads up, they bounce the trunk forward and down as far as possible. Eight center - eight right - eight left. Repeat four sets.



- 29a. With feet together the student, keeping his knees stiff, allows his trunk to fall forward until his hands come as close to touching the floor as possible. Bounce 8 times center, 8 left side, 8 right side. Be sure to let head and arms hang loose. Four sets.



30. BACK STRETCH

Student lies on right side and raises left leg to chest. Then stretch leg straight out and repeat four times. Roll over and repeat on left side.



31. CAT BACK

On hands and knees, hump the back up as high as possible keeping the head down. Hold the humped position for a few seconds then allow the back to lower until straight. Do not allow it to drop into an arch. Tighten abdominals while humped. As the back drops back to a straight line bring the head up.



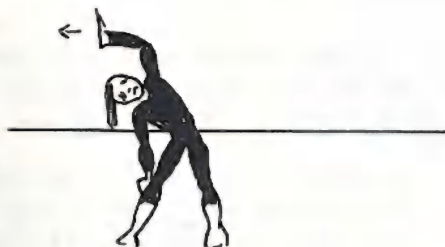
32. KNEE TO NOSE - KICK

On hands and knees bring right leg to the nose and then kick leg out backwards. Repeat eight times and then perform this set with the left leg. Four sets.



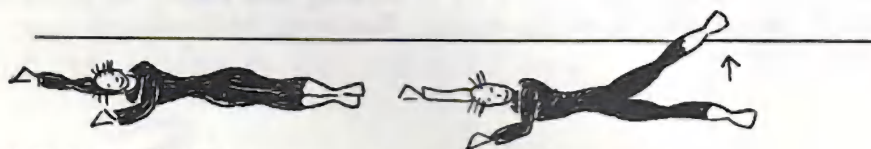
33. LATERAL STRETCH

Standing feet apart, allow right hand to slide down right thigh for support. Raise left arm over head as body leans to right. Try to push the heel of the left hand even further to the right. Eight pushes. Alternate with left side. Four sets



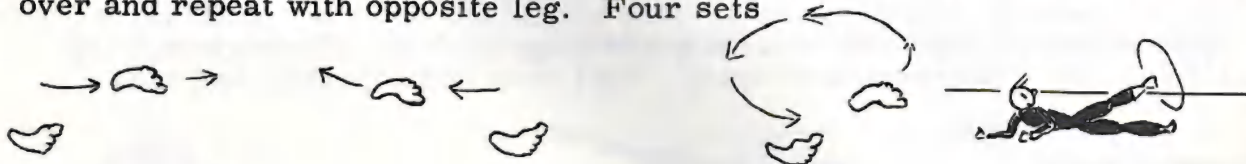
34. SIDE KICK

Lying on right side, legs straight, raise left leg straight up from the hip. Four times then roll to opposite side and repeat. Three sets.



35. SIDE CIRCLE

Lying on the right side with legs straight - kick left leg forward, then back and then perform a complete circle with leg. Repeat four times - then roll over and repeat with opposite leg. Four sets

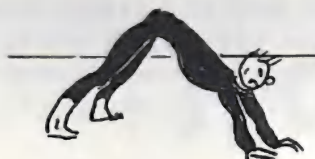


36. SHOULDER WALK

Feet apart, knees stiff, lean over and place the left hand on the floor, walk the trunk further out on the right hand and to the left on the third count. The body is now stretched at full length resting on feet and hands. On the fourth count allow the pelvis to drop, but not to touch the floor. On the return push back in two counts - left hand - right hand and use three and four for standing erect. Repeat leading off with right hand. Do not bend knees. Six to eight sets.



- 36a. At the end of Number 36 have the class stop at the stretched position then, raising the seat into the air, walk the body back onto the heels keeping the feet straight forward. Bounce a few times then stretch out again. Repeat 3 times.



37. SHOULDER SERIES

Elbow Push Back

Keeping the arms at shoulder level and arms bent, push the elbows back bringing the shoulder blades together. 8 sharp backward movements followed by exercise #38.



38. Forward droop and swing

Allow the upper body to droop forward and hang while shaking the shoulder loose.

Alternate 37 and 38 for 3 sets.



39. Back Stroke

Place the back of the right hand on the right side of the face - press the elbow straight back. Keeping the elbow back reach backwards with the right hand. Alternate left and right 4 times each side. Then repeat #38.

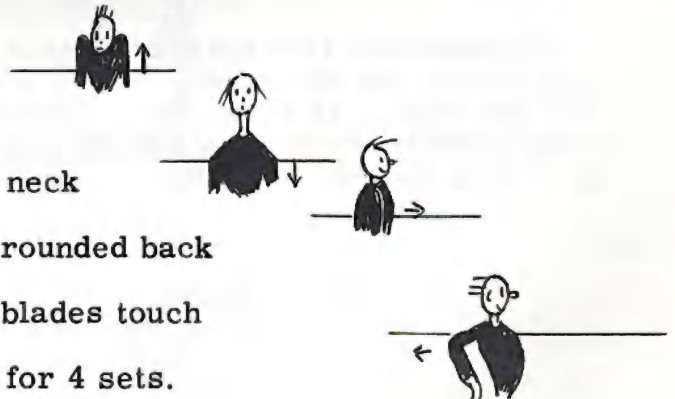
Alternate 38 and 39 for 3 sets.



40. Shoulder Set

1. Hunch shoulders up to ears
2. Drop shoulders to make a long neck
3. Bring shoulders forward for a rounded back
4. Press shoulders backward till blades touch

Repeat 4 times then alternate with 38 for 4 sets.



41. FIGURE CONTROL

Chest - Push up let downs

Have the students take the push up position at the top of the Push and lower themselves very slowly. Be sure bodies are straight - and that at no time drop or roll into an arch. Start with 5.



41a. Push Ups

As soon as possible students should start push ups from the prone position. PUSH UPS ARE DONE WITH TOES AND HANDS - KNEES ARE STRAIGHT AND DO NOT TOUCH THE FLOOR ONCE THE BODY LEAVES THE FLOOR. THIS IS SAME FOR BOTH BOYS AND GIRLS.

42. Diaphragm and Upper Back Obesity

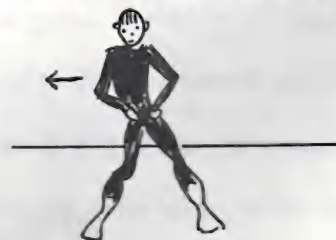
Students stand with feet apart - the arms held away from the sides, palms facing back. Keeping the buttocks and abdominals tight and hips held straight, twist the arms and upper body first left and then right. Twist 16 times and then drop into exercise #46. Repeat 3 times.

The tighter the abdominals and gluteals are held and the further the arms twist the body, the greater will be the success of the exercise.



43. Waist

Standing with feet apart and hands on hips students try to keep the shoulders level and at the same time move the rib cage over, first to the left side and then the right. 10 times daily. This takes a little time to learn and is best tried in front of a mirror. The commonest mistake is to drop a shoulder or switch the hips or both.



44. THIGHS

Standing with feet apart knees straight, shift the weight onto the right leg - then to the left. 10 shifts. Then slowly, while continuing to shift in rhythm, bend slowly forward from the waist until hands touch the floor - then rise to the stand position still shifting.



45. FLAT ABDOMEN

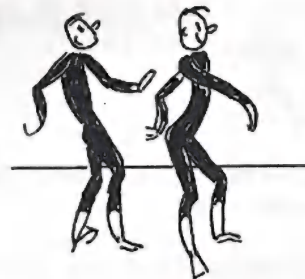
Pelvic tilt walk

Start with feet apart and teach the pelvic tilt standing.



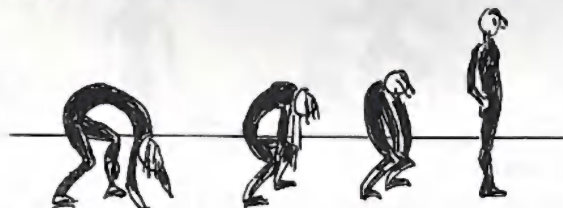
Then teach pelvic tilt walking by stepping forward onto the left foot and tilting the pelvis forward. Step forward on the right foot and tilt backwards. Go at a very slow pace until co-ordination between walking and tilting is achieved. Be sure to alternate forward tilting on right foot across the floor and back on left - so that the class does not get accustomed to tilting forward on the same foot at all times.

The upper body stays still. Don't bounce.



46. FORWARD COLLAPSE

Feet apart allow the body to collapse forward and down. Then unroll upwards by pushing the knees forward and letting the hands slide up the thighs and unrolling the back slowly. The last to come up is the head. Repeat left and right. Series twice.

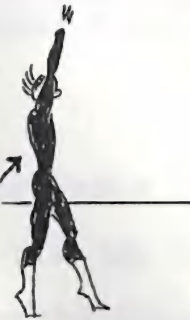




47. WALK SERIES

1. Start off in a circle at a brisk walk heels down first.

2. Up on toes for 8 counts - hands high.



3. Walk 8 counts with knees bent but feet held straight (NOT TURNED OUT). Alternate on toes and knees bent 3 times.



4. Twist shoulders in opposition to legs.



5. On toes, twist hips in opposition to shoulders by turning toes inward on twist.



6. Backward walk - being sure to bring heels to floor on each step.



7. Walk with feet turned way out.



8. Walk pigeon toed.



9. Soft run with knees bent.



10. Skip



Return to normal walk in between each change.

48. JUMP SERIES

1. Eight jumps with legs soft and relaxed.



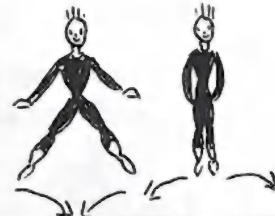
2. Sixteen jumps with legs stiff, just the feet working.



3. Repeat #1

4. Repeat #2

5. Jump legs apart and together for eight sets.



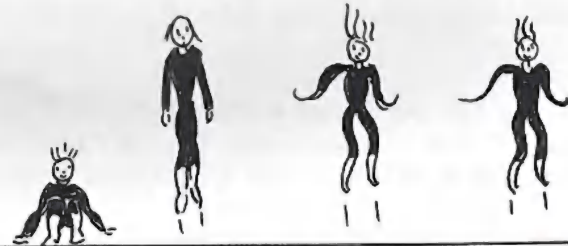
6. Keep legs apart and jump as in #1 for eight jumps.



7. DOWN - UP - JUMP - JUMP

Jump down into a squat, then up into the air and follow with two normal jumps.

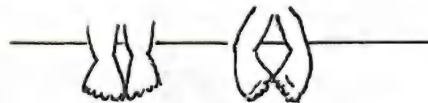
Repeat four sets.



49. LEGS AND FEET

- a. Mouse trap

Stand with the feet parallel. Roll onto the outer edges of the feet curling the toes under. For small children this is called the mouse trap because a small mouse should be able to sit between the curled out feet without escaping. 5 repetitions.



b. Penny Hunting

Feet parallel - keeping the feet flat on the floor lift only the toes as if to uncover a penny on the floor. Alternate with 49a.



c. Ski Edging

Feet parallel-bend both knees and shift them to the right. This brings the weight on the outside of the right foot and the inside of the left foot. Now push the weight to the other side - 10 repetitions.



d. Deep Knee Bends on Toes

Feet and legs parallel (Do not open knees). Go up onto the toes to the count of 1-2 bend the knees 3-4 then up on the toes 5-6 return to flat foot 7-8.

Start with 4 and increase gradually.



e. Flat Foot Knee Bend

Keeping heels on the floor - bend the knees and stretch the arms forward for balance.

Start with 4 and increase gradually.



f. Flat Foot Duck Walk

Staying in deep stoop and leading with the heels in as an ordinary walk - cross the room.



g. Duck Walk on Toes - across the room.



h. Monkey Walk

Keeping the legs straight - cross the room on hands and feet.



i. Horse Kick

On hands and feet with bent knees - cross the room.



j. Bunny Hop

Keep in stooped position and hop across the room.



50. RELAXATION

Complete relaxation is best achieved after the body has had a workout. This series comes at the end of an exercise class.

1. Have the class lie down on their backs and cross their arms over their chests,
 2. "Take a huge breath and with your arms squeeze the air out of your lungs through your teeth with a loud hiss", tell them to get it all out - "You should see stars and be black in the face". Repeat twice.
 3. "Now - put your arms on the floor and try to do exactly as I tell you. Close your eyes and inhale softly without sound - in - exhale - inhale - exhale". Keeping your voice soft and on a monotonous level, talk slowly.
- * "Your head is resting - your neck is resting - let go in your upper arms - your elbows - your lower arms - wrists - hands - fingers - inhale - exhale - inhale - exhale - (give them time to obey) your back is resting - the backs of your knees - your calves - ankles - insteps - toes -

inhale - exhale - inhale - exhale -

Start again from * and go through the list a second time always with a gentle slow and monotonous voice. Children call this "being put to sleep" and enjoy it very much.

At the end of the second series

"Now stretch your hands above your heads and start to grow long and longer - stretch your legs - point your toes and push longer and longer - reach and reach - grow and grow - let go.

As you talk this last phrase for them, let your voice take on urgency - encourage them to grow longer and longer - a sharp "let go" effects the release.



T A B L E

<u>Abdominals</u>	<u>Psoas</u>	<u>Upper Back</u>	<u>Low Back</u>	<u>Feet</u>
#1	# 6	# 20	# 2	# 4
2	14	21	6	5
3	15	24	19	47
4	16	36	21	48
5	17		22	49a
6	18		23	49b
7			30	49c
8			27	49d
9			32	49f
10				49g
11				49j
12				
14				
15				
16				
17	<u>Flexibility</u>	<u>Gluteals</u>	<u>Warm Up</u>	<u>Power</u>
31				
42	# 9	# 1	# 1	# 7
44	10	2	2	9
45	25	3	3	10
	26	4	4	11
	27	5	5	12
	28	6	6	14
	29	7	7	15
	30	8	8	16
	31	19	13	17
	32	21	19	19
	33	22	20	20
	37	23	21	21
	38	31	27	22
	39	32	30	23
	42	44	31	24
	43	45	32	32
	44	47	33	34
	49a	48	34	35
	49b	49i	37	36
	49c		38	41
	49e		39	48
	49h		40	49d
			42	49e
			43	49f
			44	49g
			45	49j
			47	49i
			49a	
			49b	
			49c	
			49d	
			49e	

TABLE CONTINUED:

<u>Pelvis</u>	<u>Thighs</u>	<u>Arms</u>	<u>Shoulders</u>	<u>Legs</u>
2	7	20	20	4
3	8	21	21	5
6	16	39	36	7
7	17	41	36a	8
8	18	49h	37	14
13	28	49i	38	15
31	32		39	16
45	34		40	17
	35		41	18
			42	19
			47-(4)	21
			49h	22
			49i	23
				28
				32
				34
				35
				36
				47
				48
				49

<u>Pectorals (Round Back)</u>	<u>Lordosis (Sway Back)</u>	<u>Relax</u>	<u>Cool Off</u>
20	1	13	13
21	2	38	27
29	3	46	29
33	4	50	33
36	5		42
37	6		43
38	7		44
39	11		45
40	12		46
41	13		50
41a	14		
42	15		
47			
45-(5)			
49h			
49i			

SAMPLE EXERCISE CLASS

#1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 13,
15, 13, 16, 13, 19, 20, 21, 25, 26, 27, 28, 29, 29a,
31, 34, 35, 31, 32, 33, 36, 37, 38, 37, 38, 39, 38,
40, 42, 43, 44, 45, 46, 47, 48, 49, 45, 46, 36, 50

PREPARATION EXERCISES FOR SKIING

5, 6, 8, 10, 11b, 12, 14, 15, 27, 29, 36, 41a, 47, 48, 49

PREPARATION EXERCISES FOR RIDING

6, 7, 8, 10, 11b, 12, 13, 14, 15, 25, 26, 29, 41a, 49

PREPARATION EXERCISES FOR TENNIS

5, 10, 11b, 12, 14, 15, 29, 41a, 42, 47, 48, 49

PREPARATION FOR GOLF

10, 11b, 12, 14, 15, 29, 37, 38, 39, 40, 41a, 42, 44, 45

PREPARATION FOR SWIMMING

10, 11b, 12, 14, 15, 19, 20, 21, 22, 29, 41a, 47

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